PROFESSIONAL TRAINING

Fundamentals and Applications of Sheet Metal Forming

This EWI professional course provides an overview of sheet metal forming practices, material formability, lubrication, equipment, tooling, and various applications of sheet metal forming.

The two-day course is designed for designers, engineers, and managers who have roles and responsibilities in material formability/qualification, tooling design/maintenance, stamping quality check/process control, and purchasing of stamping/equipment/tooling. Attendees who complete the course can receive 12 Professional Development Hour (PDH) credits.

Day 1

- Sheet Metal Forming - Introduction
- Formability and Testing Methods
- Friction and Lubrication
- Tool Wear, Materials, Coatings and Treatments
- Press Equipment – Mechanical, Hydraulic and Servomotor presses
- Forming Dies, Cushion Systems, and Sensors
- Quality Issues of Stampings – Springback, Wrinkle, and Fracture
- Modeling and Simulation for Forming Process
- Formability Testing Demo using the Erichsen Testing Machine

Day 2

- Blanking and Trimming
- Bending, Flanging and Hemming
- Drawing Round and Rectangular Parts
- Forming of Advanced High Strength Steels
- Hot Stamping
- Warm Forming of Aluminum Alloys
- Hydroforming of Sheet/Tube
- Incremental Sheet Forming - Spinning, Shear Forming and Flow Forming
- Application of Industry 4.0 for Sheet Metal Forming
- Servo Press Forming Demo Using a 300-Ton Servo Press

For more information, visit **ewi.org/events** or call 614.688.5152.

Course Leader: Hyunok Kim is Director of the EWI Forming Center. His technical expertise includes cold/hot forming technology, tribology in metal forming processes, and forming test / formability analysis / process simulations. He is an Ohio-certified Professional Engineer (PE) and also teaches at The OSU College of Engineering. Hyunok received his M.S. at University of Michigan, and Ph.D. at The Ohio State University in metal forming and manufacturing areas. At EWI, he consults with metal forming companies, material suppliers, and OEMs in the automotive, aerospace, heavy manufacturing, and shipbuilding sectors. He has authored more than 60 technical papers and books on topics related to advanced manufacturing and metal forming.

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